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No. 59

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## WORLDWIDE AFFAIRS

### FRENCH COMMUNICATIONS OFFICIAL HOLDS TALKS ON COOPERATION

#### Talks Commence

Sofia BTA in English 0837 GMT 12 Oct 78 AU

[Text] Sofia, 12 Oct, BTA--The talks between the Bulgarian minister of communications, Mr Pando Vanchev, and the [French] state secretary for posts and telecommunications, Mr Norbert Segard, began here today, to discuss the problems of cooperation between the two countries in the sphere of communications and the manufacture of communication equipment. The opinion was expressed that substantial possibilities are on hand for joint production of communications equipment in the future, still the more so because of Bulgaria's specialization in the manufacture of certain communications facilities.

The French secretary of state for posts and telecommunications is to visit some institutes and plants in the country which design and manufacture electronic equipment. It is expected that the two ministers will sign a document on future cooperation. Joint working groups have been set up in the sphere of telecommunications to deal with the problems of further expansion of direct contacts and scientific and technological cooperation. A programme is being worked on for mutual utilization of the ground space stations on the territory of the two countries.

A sub-system of the national automated county centers telephone system operates in the Sofia telephone office. The sub-system is built with French equipment of the [words indistinct] firms, which make it possible for the capacity of telephone lines to be packed up to 1800 channels. Similar facilities have already been installed in (16) county centers in the country, while in others, their assembly is forthcoming. The assembly and the building of projects is carried out by Bulgarian designers and builders jointly with their French colleagues.

Received by Zhivkov

Sofia BTA in English 1915 GMT 12 Oct 78 AU

[Text] Sofia, 12 Oct, BTA--Today Mr Todor Zhivkov, chairman of the State Council, received Mr Norbert Segard, state secretary for posts and telecommunications of France.



Mr Todor Zhivkov was informed of the talks being held in the capital now between a delegation of the Ministry of Communications and a delegation of the State Secretariat for Posts and Telecommunications of France. It was stressed that there **existed** good possibilities for a further development of Bulgaro-French cooperation in the implementation of technological progress in postal communications and telecommunication equipment, in the electronification of communications, jointly, by using other most modern achievements in this field. The meeting proceeded in a friendly atmosphere.

CSO: 5500

## WORLDWIDE AFFAIRS

### IRAQI SEMINAR FOR NONALIGNED NEWS AGENCIES ATTENDED

Hanoi VNA in English 1506 GMT 9 Oct 78 OW

[Text] Hanoi, 9 Oct (VNA)--A seminar of the regional centres for redistribution of information from non-aligned news agencies was held in Baghdad on October 2-4 with UNESCO assistance and under the presidency of Dr D.R. Mankekar, chairman of the Coordinating Committee of the non-aligned news agencies pool.

Participating in the seminar were 10 delegations of non-aligned news agencies, the Arab News Agency Federation and representatives of the INTERNATIONAL PRESS SERVICE (IPS). The VIETNAM NEWS AGENCY delegation was led by Director General Dao Tung.

Iraqi Minister of Information Qasim Hammudi delivered the opening speech. The representatives made reports and exchanged experiences on the role and tasks of regional centres for receipt and redistribution of non-aligned news agency material and discussed measures to strengthen cooperation among non-aligned news agencies and contribute to the building of a new world information order.

At the seminar VNA's representative spoke of the experience in news reception and redistribution work of VIETNAM NEWS AGENCY--one of the regional centres. In particular he dealt with the line, standards and subjects for information from the non-aligned movement in publicity work against imperialism, colonialism and neocolonialism and the international reactionary forces, and in contributing to the defence of peace, the consolidation of independence and stability in each region and the strengthening of mutual understanding among nations.

CSO: 5500

WORLDWIDE AFFAIRS

UNION DELEGATION IN USSR RAISES PROBLEM OF KIEV TRANSMITTER

Oslo AFTENPOSTEN in Norwegian 30 Sep 78 p 36 LD

[Kjell Dragnes dispatch: "Russians Have Promised to Examine Kiev Transmitter"]

[Text] Moscow, 29 September--The Soviet communications workers trade union has again promised to examine what measures might be implemented to prevent the side-effects of the Kiev transmitter, Norwegian Federation of Trade Unions [LO] Deputy Chairman Leif Haraldseth told AFTENPOSTEN.

Haraldseth was leading a LO delegation which was visiting the Soviet Union at the invitation of the Soviet All-Union Central Council of Trade Unions [AUCCTU].

A.M. Kanayeva, leader of the Soviet trade union, replied to the appeal from the delegation on the Kiev transmitter, saying that the powerful interference from the installation is not a generally known problem in the Soviet Union.

CSO: 5500

## WORLDWIDE AFFAIRS

### BRIEFS

FRANCO-BULGARIAN TELEPHONE COOPERATION--Franco-Bulgarian cooperation in communications and the joint production of equipment was the focus of talks recently held in Sofia between Norbert Segard, French secretary of state for post and telecommunications, and Bulgarian Minister of Communications Pando Vanchev, according to the BTA. Segard and Vanchev agreed to confide "the problems posed by the development of scientific and technical cooperation to groups of various experts." They also plan "to work out a program enabling the utilization, by both countries, of the existing installations in France and Bulgaria." (Note that the SAT [Telecommunications Company, Inc.] is involved in the production of multiplexers in Bulgaria and that Thomson-CFF has undertaken discussions dealing with electronic switching with the Bulgarian authorities.) [Text] [Paris ELECTRONIQUE ACTUALITES in French 20 Oct 78 p 8]

CSO: 5500

## VIETNAM

### BRIEFS

MODEL K225.B AMPLIFIERS--The Posts and Telegraph Equipment Factory has successfully produced the all-transistor Model K225.B amplifier. The Radio Unit of the Technical Bureau of the Posts and Telegraph Equipment Factory consulted a number of documents from other countries. The amplifier has 33 circuit boards manufactured using the printed circuit technique. The highest output for speakers is 50 watts; there are two leads for speakers, each with 25 watts. The leads can be used independently. The amplifier uses 110-120 volts electricity or a 24-volt battery. The chassis is simple and convenient for information and propaganda uses, especially in areas that do not yet have an industrial electrical network. The amplifier can be used as a receiver, or as an amplifier for a microphone, a record player, recorder, and so on. The factory has produced 80 amplifiers to serve the mountainous provinces. [Text] [Hanoi NHAN DAN in Vietnamese 2 Oct 78 p 2] 7839

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## INTERNATIONAL AFFAIRS

### BRIEFS

NEW SATELLITE OBSERVATION STATION--A new earth satellite observation station was established at Lamkowko near Olsztyn. This station is the second of its type in Olsztyn Voivodship, in addition to the station of the Agricultural-Technical Academy in Olsztyn that is one of the first stations put into operation in Poland and has been conducting regular observations for 17 years. The new installation is capable of conducting precise photographic observations with the use of an "AFU-75" tracking camera which enables specialists of the Agricultural-Technical Academy to expand satellite geodesy and geophysics research included in the research program coordinated by the Interkosmos organizations. In addition to the tracking camera obtained from the Astronomical Council of the Soviet Academy of Sciences, the station is provided with equipment which is capable of automatically recording and processing the results of the observations with the use of computers. Devices for precisely determining the time with accuracy of up to one/ten-millionth of a second are also installed in the station. [Text] [Warsaw ZYCIE WARSZAWY in Polish 18 Sep 78 p 2]

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## CZECHOSLOVAKIA

### BRIEFS

NEW TELEVISION TRANSMITTER--A new television transmitter, the second one in the South Bohemia Kraj, is being built on top of the Marsky hill near Vimperk in the Prachatice Okres. The Strakonice Construction Administration of the Ceske Budejovice Construction Works is in charge of the construction which will amount to more than Kcs 10 million. At 900 m above sea level, work was started on access roads in order to begin foundation construction for a 90 m high tower before 1979. [Prague ZEMEDEL'SKE NOVINY in Czech 16 Oct 78 p 2]

CSO: 5500

## HUNGARY

### AIR TRAFFIC RADAR CONTROL STATION FILLS NEED

Debrecen HAJDU BIHARI NAPLO in Hungarian 11 Aug 78 p 4

[Article: "Air Traffic Radar Control on Korishegy, Trial Operation at the LRI Radar Station"]

[Text] Tourists in the Bakony can see from the distance an enormous globe on the top of Korishegy. But very few of them know what purpose is served by the mysterious-looking object. It was here that the Korishegy radar station of the Air Traffic and Airport Administration was built several years ago. The trial operation was begun in 1976, and since February a year ago they have been working experimentally. This year the microwave chain will be ready which will link the station to the Ferihegy airport, and at that time it will also join in practical control work.

The task of the radar station is the control of civilian air traffic. The radar beams emitted from the 704-meter high Korishegy will "see" airplanes in a 500-kilometer circle. The most modern pieces of electronic equipment and computers will provide six pieces of data on every airplane every minute. They will establish the number of the airplanes, their speed, altitude and the coordinates. After it is put into operation, air traffic in Hungary's air-space will be faster and safer.

Up to now, there has been no radar control over Hungary. Civilian airplanes flew in a 5-20 kilometer wide so-called air lane between reporting points established on the ground. The arrival at each reporting point was reported to the Ferihegy control center, where on the basis of this information they calculated the positions of the airplanes. The airplanes could fly in these lanes at altitude levels with a difference of 600-100 meters at intervals of 10 minutes. A 10-minute interval represents a distance of about 150 kilometers, which is unconditionally necessary from the safety point of view.

About 400 civilian airplanes a day appear in Hungarian air space. Because of its central situation, Hungary lies in the center of international air lines. Thus it is necessary to control transit airplanes as well as those landing at Ferihegy. Passage control of lines which approach in all directions and cross



one another represents a responsible and difficult task for the controllers. The Korishegy radar station will make this task easier to an extremely great extent since the airplanes can be seen also on the radar screen, and the entire air space can be directly observed. Moreover, the airplanes can now go in 5-minute intervals, and thus traffic can move faster and with greater safety.

#### PHOTO CAPTIONS

1. Specific picture of a radar screen. The air lanes are clearly visible, and the triangles represent reporting points. Each white dot represents an airplane.
2. The Korishegy Station.
3. The controllers perform difficult and responsible work.
4. The most important part of the station is the transmitter room.

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## BRAZIL

### JOINT VENTURE WITH FUJITSU FOR COMPUTERS PLANNED

#### SERPRO President's Justification

Rio de Janeiro JORNAL DO BRASIL in Portuguese 27 Sep 78 p 23

[Text] Moacir Fioravante, the president of SERPRO [Federal Data Processing Service], declared yesterday that the creation of a joint venture with Fujitsu and Brazilian private enterprises for the manufacture of medium-size computers is justified because it is not of interest to leave that market as a monopoly of IBM, since the enterprises already authorized to manufacture mini-computers would have difficulties in filling it.

The meeting of the Plenary Council of CAPRE, which was scheduled for 5 October next, where computers were one item on the agenda, was postponed sine die according to information given yesterday by CAPRE sources in Brasilia. The IBM project would be debated in that meeting and the last word would be given on the possible interference of that project in the area of minicomputers.

#### Foreign Technology

Mr Moacir Fioravante gave his opinion that an association with a foreign partner is necessary for the manufacture of medium-sized computers. For that reason, SERPRO and DIGIBRAS [expansion unknown] are negotiating with Fujitsu, an enterprise which agrees to free its capital and make possible the absorption of technology, one of the principal objectives of that joint venture.

The president of SERPRO added that the enterprises authorized by CAPRE are to manufacture minicomputers and, if they wish, they can enter the market for larger-sized computers. He added at the same time that they have such an objective, above all for the short term. COBRA [Brazilian Computing Systems] and other authorized enterprises will not be able to acquire technology abroad in order to begin a new generation of minicomputers. For that reason, the development of their technology is dependent on this area. Mr Moacir Fioravante further commented that without associating with enterprises with international experience it is difficult to enter the field of larger-sized computers.

The enterprises qualified to produce larger computers in the meantime are prohibited from entering the minicomputer market. The five criteria of the CDE

[Economic Development Council] for giving authorization to computer manufacturers, according to Mr Moacir Fioravante, are valid for the entire sector and not just for the manufacturers of minicomputers. These criteria at the same time are not for the purpose of eliminating but rather for classifying. One of the criteria requires that the enterprise have the participation of Brazilian capital which, on an international level, IBM has refused to permit.

In Brazil the president of CAPRE, Mr Elcio Costa Couto, advised that he had no official knowledge of the joint venture. In the Planning Ministry the reactions over the undertaking were positive, because many have understood this to be the best road for promoting competition among enterprises in the area of medium-sized computers, which IBM also intends to see a similar project which is now being analyzed by CAPRE approved. Sources in CAPRE declared that the idea of the joint venture is good. If it is constituted, they added, it would facilitate the approval of the IBM project, because two basic worries would be eliminated: the possibility of a monopoly for the U.S. company in a sector considered to be vital to national security and also the possibility of a medium-sized computer from the enterprise coming to threaten the models manufactured by COBRA, which are minicomputers.

#### Talks Begin in October

Rio de Janeiro JORNAL DO BRASIL in Portuguese 30 Sep 78 p 16

[Text] The viability of a joint venture between private Brazilian enterprises, state enterprises and Fujitsu for the manufacture of medium-sized computers will be the topic of the meetings which the Boards of Directors of SERPRO [Federal Data Processing Service] and DIGIBRAS [expansion unknown] will have with the international marketing director of Fujitsu, Mr Shiro Yoshikawa, beginning on 9 October in Rio. This information was given yesterday by Mr Moacir Fioravante, the president of SERPRO.

Setting out the dimensions of the market is to be one of the most exciting subjects taken up in the meetings. In Tokyo, last week, Mr Moacir Fioravante and Mr Wando Borges, president of DIGIBRAS, agreed with the Japanese on the proposal to create a joint venture. They discussed the conditions of the undertaking only briefly. The most difficult phase of negotiations will therefore begin on 9 October.

#### Nationalization and Exports

SERPRO and DIGIBRAS have some conditions to impose for the realization of the project, such as a high and progressive nationalization of equipment sources, a balance of payments tending toward equilibrium and a majority of Brazilian capital.

A significant part of the production would have to be destined to the foreign market in order for the enterprise to be viable, not only in order to have the economy of size but chiefly to maintain an equilibrium in its balance of payments. It is for this reason that it would have to use Fujitsu's international trade structure. In a so highly competitive market as the computer

market is, only enterprises with international traditions are able to place products on the world market. The manufacturers of Brazilian minicomputers, for example, do not have the objective of placing their products on the foreign market as a priority item.

For that reason Fujitsu will have to allocate markets to Brazil which are now exploited by their home factory or by subsidiaries in which it has a controlling interest. It will be a difficult bargain. The Brazilians are so interested in sending computers produced in Brazil even to the Japanese market, Fujitsu will probably easily agree to export from Brazil to other countries in Latin America, for example.

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## BRAZIL

### PLANNING MINISTER ANNOUNCES MEDIUM COMPUTER MANUFACTURE UNRESTRICTED

Rio de Janeiro JORNAL DO BRASIL in Portuguese 3 Oct 78 p 20

/Text/ Brasilia. The Planning Ministry divulged yesterday that policies of reserving the market, or any other official restrictions, will not be adopted for the manufacture of medium and large computers in Brazil, contrary to the position adopted for minicomputers. CAPRE, the Coordinating Commission for Electronic Processing Activities, will approve the projects based on "technical qualities," and its duties include encouraging competition among the industries in this sector.

At least three projects have already been presented to CAPRE aiming at producing computers of medium size in Brazil: IBM (with no shares of stock sold in Brazil), Burroughs (whose details have not been revealed), and an association of Monneywell-Bull /as published/ with CIEE /expansion unknown/ (a French company) and Brasilinvest /expansion unknown/. The organization of a joint venture between DIGIBRAS /expansion unknown/ and SERPRO /Federal Data Processing Service/ with the Japanese Fujitsu company, but so far contacts have not been maintained with CAPRE.

#### One Demand

The only demand made by CAPRE for the approval of these projects to manufacture medium and large-scale computers is that there is not to be any interference in the area of minicomputers, which has been reserved for Brazilian enterprises. In the remaining cases, according to the official explanation given by the Planning Ministry, the same criteria will be used as a general rule as in the industrial policy that has now been adopted in Brazil under the provisions of Resolution No. 9 of the Economic Development Council /CDE/ and by the Industrial Development Council /CDI/.

With the explanations given by the government, it has remained clear that foreign enterprises interested in working in the computer field will be able to utilize one of the three following possibilities: to enter with 100 percent foreign capital; to enter with minority Brazilian participation or finally to put Brazilian capital in a majority position. It was pointed

out that IBM , for example, will not lose anything if it should by chance present a project with 100 percent foreign capitalization.

#### Stable Rules

In agreement with CAPRE, the government has resolved (in the case of large and medium computers) not to change the "rules of the game" and leave the norms of a market economy in force. A CAPRE advisor explained that the authorities will be able in time to make some specific demands such as channeling production toward the foreign market.

In the case of a joint venture the Planning Ministry divulged that there is no official participation in the current negotiations. According to CAPRE, the initiative was taken by the Japanese spokesman for Fujitsu who were interested in producing computers in Brazil and who resolved to allow a share of the stock to national enterprises. The participation or non-participation of DIGIBRAS and SERPRO, state companies, will be decided upon by applying market criteria and not depending on an eventual government enterprise for manufacturing medium-sized computers. One of the reasons given for opening the medium and large-sized computer sector to foreign capital was the concern of the government to avoid that Brazil should have in the long run an obsolescent technology in comparison with other countries.

Competition among enterprises will be stimulated by the government. This is the basic point of the official policy regarding large-size computers, leaving to one side the demands made in the minicomputer sector, whose reserved market has left the responsibility for domestic production in the hands of only four enterprises. CAPRE estimates that nearly eight projects will probably be analyzed in the next three months.

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## BRAZIL

### COBRA OFFICIAL SEEKS CAPRE CRITERIA APPLIED THROUGHOUT INDUSTRY

Rio de Janeiro JORNAL DO BRASIL in Portuguese 4 Oct 78 p 19

/Text/ Mr Carlos Augusto Rodrigues de Carvalho, the president of COBRA /Brazilian Computing Systems/, declared yesterday that the criteria utilized by CAPRE /Coordinating Commission for Electronic Processing Activities/ to give authorization to manufacturers of minicomputers should prevail also for the other segments of the industry. For that reason he declared himself of the favor of the understandings that SERPRO /Federal Data Processing Service/ and DIGIBRAS /expansion unknown/ are maintaining with Fujitsu for the manufacture of medium-sized computers as a joint venture.

If the joint venture becomes a reality, with a majority holding of national capital, the president of COBRA suggests that the government grant protection to this undertaking, permitting that it not be subjected to foreign competition for two or three years. He added that what is fundamental in the meantime is that CAPRE should not approve projects for the manufacture of computers on the borderline of small-sized equipment.

#### Foreign Strategy

Mr Carlos Augusto Rodrigues de Carvalho stressed that the foreign enterprises which have not been approved to manufacture minicomputers will initiate a strategy for penetrating this segment of the market. According to him, the enterprises are trying to get projects approved for the manufacture of equipment which is on the borderline of the minicomputers, in order to penetrate this segment of the market through marketing or through technological modifications. In this way, he added, the foreign enterprises are trying to change the government's model for the manufacture of minicomputers.

The COBRA president added that the CDE /Economic Development Council/ and the CDI /Industrial Development Council/ resolutions giving approval to manufacturers of minicomputers should not only be extended to the remaining segments of the sector but should also be extended to all of Brazilian industry. He stated that any industrial undertaking should be kept in national hands, should open its technological package, should have its decision-making

center in the country, and should associate with a good receiver of technology and assume the responsibility of developing other products.

The COBRA president declared that the enterprises authorized to manufacture minicomputers are facing that segment of the market at this moment, even to the point of fulfilling the pledge of launching more sophisticated models with their own technology. In the meantime, COBRA in particular within two years will be able to plan on manufacturing medium-sized computers. He agreed that for that purpose the enterprise would have to face serious difficulties, not only technological but also marketing difficulties. This is the case since a part of the production would have to be placed on the foreign market.

Mr Carlos Augusto de Carvalho hopes that CAPRE will define in rather complete detail the profile of the equipment that may be authorized in the medium-sized computer segment. He declared that there is no universal definition to characterize some types of that equipment. The criteria must take into account the price, the appearance and the market for which the computers are destined. According to him these are subjective criteria and it is for that reason that they cannot be exclusively defined as definitive norms.

He declared that foreign enterprises which are presenting projects to CAPRE (IBM, Burroughs and Sharp) are following the strategy of presenting successive claims which apparently conform to CAPRE standards but which in reality are trying to penetrate the market for minicomputers.

The president of COBRA classified the foreign enterprises in two categories. The first one comprises those which adapt themselves to the policies of the host countries. The second one, perhaps because of their commanding position, are inflexible. He declared that IBM is in the second category as it does not agree to enter into agreements with national capital. He added that a persistent government policy will be able to bring the enterprises of the second group to a greater flexibility and make IBM for example accept association with Brazilian capital.

The president of COBRA signed a sales contract yesterday with Mr Haroldo Correia de Mattos, the president of EMBRATEL /Brazilian Communications Company/, for 10 Cobra-700 computers valued at 64 million cruzeiros which will be delivered between next November and September of 1979. These computers will serve to enable EMBRATEL to complement the invoicing of intercity connections by DDD, which have doubled in the last two years. Mr Carlos Augusto de Carvalho emphasized that COBRA is now the third largest computer enterprise and that next year it plans to be the second, overcoming Burroughs in invoicing.

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## BRAZIL

### EMFA SUPPORTS INCENTIVES FOR DIGITAL ELECTRONICS INDUSTRY

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Sep 78 p 28

[Text] Brasilia. The General Staff of the Armed Forces [EMFA] has found the digital electronic industry to be of interest to national security due to the conditions under which it is used. The General Staff defended the establishment of incentives for its greater development. This information was announced yesterday by the assistant of the Electronic Processing Activity Coordinating Commission [CAPRE], Engineer Maj Jorge Monteiro Fernandes.

According to him, EMFA is supporting the establishment of incentives for industry so that it may enjoy real competitive conditions. In this way it can compete with the multinationals.

Maj Jorge Monteiro Fernandes added "if conditions are not established so that the digital electronic industry can create new products, it will continue to depend on foreign technological sources."

He declared that "the great challenge is to buy technology only once and then be able not to buy it the second time. In that way Brazilian-made products will start with a technological level comparable to that of the foreign products."

#### Foreign Dependence

The EMFA advisor added that "so that national industry may avoid depending on foreign technology in a second stage, it becomes necessary to create a mechanism for stimulation in the tax area, as well as effective exchange between industry and the universities."

He emphasized the importance of this exchange for the training of high-level personnel which an industry that must create an autonomous technology naturally needs.

#### EMFA Not Alone

EMFA is accompanying the development of the four Brazilian digital electronics enterprises which are responsible for taking care of the national mini-computer market: COBRA [Brazilian Computing Systems]-Computers and Brazilian

Systems Inc., of Rio; ADISA [expansion unknown] of Rio Grande do Sul; SID [expansion unknown], of Curitiba; and LABO [expansion unknown] of Sao Paulo.

Major Monteiro Fernandes divulged that by the end of the year the ADISA, SID and LABO enterprises should begin the production of minicomputers with licensed models. ADISA will begin with Japanese technology from Fujitsu; SID, with French technology from Logaba and LABA will begin with German technology from Nixdorf.

The current production of COBRA: the Cobra-400 and Cobra-700 because of absorbed foreign technology from Ferranti (English) and Sycon (American) are very good.

#### Military Interest

Major Monteiro Fernandes mentioned the fact that in other countries also, such as France, the United States, Federal Germany and England, the digital electronics industry is considered of military interest and is a factor in national security. This is explained by the diverse employment of minicomputers in a number of sectors, such as medicine, nuclear power generation, warships, long-range airplanes, the control of industrial processes, control of production and electrical energy distribution systems, transit and armaments among other uses.

EMFA, as it places the digital electronic industry among those of military interest or importance to national security, according to Engineer Maj Monteiro Fernandes, has considered one more important characteristic: its capacity to strengthen national power. The advisor further emphasized "the creation of domestic technology, which has happened in the case of EMBRAER [Brazilian Aeronautics Company], which is a good example for the digital electronics industry to follow."

"EMBRAER," he declared, "was born from the labor of a group of researchers in the Aerospace Technical Center who, together with the product of their research, created an industry. The example of EMBRAER has already been followed in the digital electronics industry field with the growth of EMBRACOMP [expansion unknown], where both the product and the enterprise are the result of research carried on by the nucleus of electronic computation in the Coordination of Post-Graduate Programs in Engineering of the Federal University of Rio de Janeiro [COPPE-UFRJ]. Another similar example is that of the Parks enterprise which came out of research performed in the Federal University of Rio de Janeiro.

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## BRAZIL

### EMBRATEL TO INSTALL SEVEN STATIONS IN AMAZON REGION

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 24 Sep 78 p 20

[Text] By the end of 1980, EMBRATEL [Brazilian Telecommunications Company] will install seven tracking stations in the Amazon region. These stations will receive telephone and television services directly from the INTESAT satellites. The stations will have antennas 10 meters in diameter. They will cover the municipalities of Cruzeiro do Sul, Santarem, Altamira, Tabatinga, Tefe, Coari and Itaituba, the largest nuclei of population in the region. These municipalities are still not integrated into the national telecommunications system.

According to EMBRATEL, this will be the first series of stations equipped with Brazilian-made antennas. Before them, a prototype had been tested in Macapa station. It was inaugurated shortly before the World Cup, with good results.

Each one of the tracking stations will cost nearly 20 million cruzeiros and will perform its function by means of the satellite. The satellite will send its signals to the EMBRATEL towers in Itaborai, in the state of Rio de Janeiro, for national or international distribution. An experiment like this one, utilizing an international traffic satellite for domestic services, has only been carried out by Canada. That country, like Brazil, would like to make up for the lack of terrestrial means of communication.

In Brazil, the necessity of installing this type of station came up when the government cancelled the installation of the domestic Brazilian satellite.

12,116  
CSO: 5500

## BRAZIL

### AFRICAN PROPOSAL FOR PREFERENTIAL TREATMENT FROM INTELSAT

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 8 Oct 78 p 46

[Text] Brazil will not support the proposal of five African countries to obtain preferential treatment from INTELSAT for communication services via satellite for the developing countries and the creation of a fund for the purchase of equipment. The position of the Brazilian delegation is that the supplying of resources should be a task of the international organizations which finance development projects.

The subject will be debated in the Third Assembly of the parties belonging to INTELSAT, which will begin tomorrow in Rio. Communications Minister Quandt de Oliviera will open the meeting, where 70 delegations from the organization's member countries will be present. Brazil also represents the interests of Portugal and Paraguay in this assembly.

The proposal for preferential treatment will be presented by the ministers of communications of Ivory Coast, Upper Volta, Kenya, Uganda, and the Central African Empire. The Brazilian position contrary to the proposal is justified by the fact that a reduction in rates would imply a loss in income, damaging the users of the organization themselves. The creation of the fund does not have Brazilian support either, because it would subsidize the purchase of equipment that is only produced by the developed countries.

Brazil now holds 4.23 percent of the shares of the INTELSAT system, which correspond to the same number of votes for judging the proposals presented, and it is exceeded in number of shares only by the United States, England and France.

12,116  
CSO: 5500

## BRAZIL

### SIEMENS WINS BIDDING FOR TELEX TERMINALS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Sep 78 p 28

[Text] The Siemens company of Germany, associated with the Brazilian Electronic Equipment Company, Inc., recently acquired by the Abramo Eberle Group, have been the winners of the international competition to manufacture electronic teleprinters (telex terminals) in Brazil. This information was divulged yesterday in Brazil by Romulo Villar Furtado, interim minister of communications. The minister explained that Sagem, Inc. had been announced as the winner, but since its prices were very high it was replaced by the winner of second place.

The winner does not have a definite deadline to begin manufacturing the teleprinters. However, as soon as it begins its work -- the minister revealed -- the new group will manufacture 6,000 teleprinters in the first 2 years and they will be acquired by TELEBRAS [Brazilian Telecommunications Corporation] at the price of 80,000 cruzeiros per unit.

When the 2 first years have passed, TELEBRAS will reserve 50 percent of its market for 3 more years only for teleprinters of the new group. At the end of those 5 years, TELEBRAS will suspend any reservation of the market and Abramo will then acquire 70 percent of its shares.

### Communications Satellite

The minister further divulged that Brazil, through its Space Activities Commission, is maintaining understandings with the French Agency of Technology for investigation in the sector of space rockets capable of launching satellites of the Intelsat type. He denied that Brazil intends to acquire French rockets of the Ariadne type.

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CSO: 5500

# TELEPHONE SERVICE EXPANSION IN HOLGUIN

Havana JUVENTUD REBELDE in Spanish 22 Sep 78 p 2

[Text] Holguin (AIN)--The provincial communications company repeated its decision to complete, as of December, the installation of the busiest telephone exchange in the country in terms of the number of calls placed.

Surpassed only by its electronic technology, the modern equipment will expand current service by 600 lines and will allow for one-way, long-distance dialing--from one telephone subscriber to another--between the capitals of Holguin, Havana, and Santiago de Cuba.

The new exchange is an ATZ-65, purchased from the German Democratic Republic with a cross bars system and a technology considered to be one of the most sophisticated in the field of telephone communications.

The provincial communications company believes that within 3 months of its installation it will replace and expand service now being handled in the capital city by an automatic, Hungarian-made, 2,400-line capacity exchange.

Unlike other systems in the nation, the phone system being installed by the Ministry of Communications and its Assembly and Installation Company has several networks of subscribers, in other words equipment linking subscribers to the main exchange.

In addition to increasing Holguin's telephone capacity and guaranteeing more efficient service, it will contribute to maintaining existing long-distance dialing to Las Tunas and will allow for new, one-way direct communication between Holguin and Havana and Havana and Santiago de Cuba during the initial phase.

The installation of 400 new ATZ-65 lines are also expected for late 1978 in the Moa exchange, which will largely absorb the demand for service resulting from increased population and industrial development in this city. Moa is located in the northeastern part of the province, where Cuba's great nickel reserves are found.

The provincial communications company's plans include direct calls--in both directions--between the municipalities of Banes and Antillas and the town of Deleite, whose rates would be determined in terms of distance.

This means that more phone subscribers can call simultaneously and establish communication.

9189

CSO: 5500

CUBA

#### BRIEFS

DIRECT TELEPHONE LINKS--The capitals of Camaguey, Holguin and Guantanamo provinces will have phone service to Havana by the end of 1978 through a long-distance dialing system whereby one dials 07 followed by the desired number. This work, carried out by the management of the Assembly and Installation Enterprise of the Ministry of Communications, is being undertaken in cooperation with the government, provincial communications enterprises, and other state agencies. The new, automatic communications system with Havana is already operating in Pinar del Rio, Bauta, Artemisa, Guanabo, Nueva Gerona, Matanzas, Varadero, Jaguey Grande, Villa Clara, Cienfuegos, Sancti Spiritus, Santiago de Cuba, and Bayamo. [Text]  
[Havana JUVENTUD REBELDE in Spanish 18 Sep 78 p 1] 9189

FIRST HOLGUIN TV PROGRAM--Holguin (AIN)--Studio Two of the eastern television system located in this city will air its first program on 7 October, according to agreements signed between ICRT [Cuban Institute of Radio and Television] and several agencies in Holguin Province. The modern studio has three rooms of Soviet-make--a video room, an audio and music room, and a telecinema room. Its first program will be news and music. [Text]  
[Havana GRANMA in Spanish 25 Sep 78 p 4] 9189

CSO: 5500



## URUGUAY

### BRIEFS

ANTEL TELECOMMUNICATIONS ASSESSMENT--Part of a National Telecommunications Administration (ANTEL) delegation, which had gone to Europe at the invitation of a German company, has returned to our country. The mission consisted of agency President General (Retired) Juan F. Míguez, Director Cr. Hugo F. Aguiar, and two agency engineering specialists. It has been reported that the Uruguayan technicians had a chance to assess modern telecommunications equipment and various advances in this field in Germany as well as in France. In any event, conclusions and possible favorable gains, which may have been accomplished during their short journey through the "old" continent, will be unknown until the arrival of the two engineers who decided to extend their stay in Germany. [Text] [Montevideo EL DIA in Spanish 16 Oct 78 p 7]

CSO: 5500

INTER-ARAB AFFAIRS

ARAB ARTIFICIAL SATELLITE TO BE LAUNCHED IN 1980

Kuwait AL-RA'Y AL-'AMM in Arabic 24 Jun 78 p 5

[Article by Hisham Talib: "Representative of Arab Broadcasting Stations Federation to AL-RA'Y AL-'AMM: Arab Artificial Satellite Will Be Launched in 1980; We Have Three Reception Centers in Kuwait, Jordan and Morocco; Artificial Satellite To Cover Arab Area in Terms of Information; We have No Connection With Clandestine Stations in Lebanon; We Are Trying to Confirm Our Membership in European Broadcasting Stations Federation; Arab Information Has Become Unemotional and Unimproved; Representative of Arab Broadcasting Stations Federation States to AL-RA'y AL-'AMM: We Cooperate With All Radios and Exchange News Daily"]

[Text] Muhammad Tariq 'Abd-al-Qadir, the representative of the Arab Broadcasting Stations Federation, has asserted that 1980 will witness the launching of the first Arab artificial satellite which will be able to perform numerous services to the Arab area at the level of communications by linking the telecommunications networks.

In an interview with AL-RA'Y AL-'AMM, 'Abd-al-Qadir has stated that the launching of the Arab artificial satellite will enable us to transmit all kinds of programs to the Arab world and to exchange such programs between the Arab states and the outside world. We can also use the satellite in the sphere of illiteracy eradication and Arabization because it covers the entire Arab area.

Speaking about the sides participating in the Arab artificial satellite project, 'Abd-al-Qadir said:

The Arab Broadcasting Stations Federation is responsible for preparing the study on programming, and the General Secretariat has completed the study on the Arab space network and will present this study to the General Assembly at the meeting which will be held in Riyadh at the outset of 1978 [presumably meaning 1979].

The technical aspect is the responsibility of the Arab Telecommunications Federation. This federation has almost completed the technical studies, and the project will be integrated by the outset of next year.

It is worth noting here that our Arab experts have shown extraordinary skill in preparing the studies on the project. What we hope for is that contracts will be concluded to launch the satellite at the right time.

He said: Our goals after completion of the project would be to implement the transmission of educational programs. This step must be preceded by unification of the curricula in the Arab countries. This issue is the responsibility of the Arab Education, Culture and Science Organization.

#### Birth of Federation

In the course of his interview with AL-RA'Y AL-'AMM, 'Abd-al-Qadir answered a number of questions concerning the Arab Broadcasting Stations Federation and its work. He pointed out that the idea of establishing the federation emerged at the Arab League Council in 1954 and that committees were formed to study the idea and the means and methods to establish the federation. This study continued for a long time and until the Arab League secretary general called for the convocation of the first constituent assembly in 1969 when the federation was started in Khartoum with seven countries. It now includes 21 countries as members and is considered one of the organizations operating within the framework of the Arab League.

Concerning the federation's agencies, 'Abd-al-Qadir said that the federation consists of the General Secretariat which is headquartered in Cairo, the Engineering Center in Khartoum, the Arab Radio and Television Training Center in Damascus, the Arab Agency for News Exchange and the Permanent Programming Committee. The most important spheres in which the federation operates are the holding of training courses, issuing publications, holding international conferences and coordinating between the Arab organizations and radio and television stations, in addition to its interest and work in the sphere of space [communications].

#### Cooperation and Coordination

Concerning cooperation between the Arab broadcasting stations, he said: The General Assembly holds an annual meeting in the Arab League member countries according to their alphabetical order. This meeting is attended by the heads of the Arab radio and television stations who agree in such meetings to formulate general policies in the sphere of cooperation and coordination between them and between them and the other broadcasting federations, such as the European, African and Asian broadcasting federations.

After the meetings are concluded, the General Secretariat begins to draw up the executive formulas for implementation of the resolutions through cooperation between the Arab radio and television stations, as well as between them and others in all parts of the world.

Asked about the most important forms of coordination between the broadcasting stations, the representative of the Arab Radios Federation said: One of the forms of coordination is the fact that during the Montreal athletic meet last year, we were able to impose the proper transmission prices through the federation.

### Three Arab Reception Centers

We also have three news centers in the Arab homeland, namely:

The ground reception station in Morocco which covers the Arab Maghreb countries and permits the exchange of news.

In the Arab East, there is a station in Amman and another in Umm al-'Aysh in Kuwait for the Gulf and the Arabian Peninsula. This makes it possible to exchange news between the Arab East, the Arab Maghreb and the Gulf.

This is a big operation and an enormous responsibility, especially since the three centers exchange information immediately.

He said that the first joint transmission by Arab radios took place in 1975-76 when the pilgrimage rituals were transmitted from Saudi Arabia to all the Arab countries. This is an experience that we are eager to implement [presumably meaning to repeat].

### Lebanon and Arab East Television Company

Speaking about the number of radio and television stations operating in the Arab homeland, Tariq 'Abd-al-Qadir said: All the stations operating in the Arab countries are official government stations, except for the Lebanon and Arab East Television Company.

The radio stations are all official stations, except for the radios of Somalia, Mauritania and Palestine.

The number of stations we deal with is 17 television stations and 21 radio stations.

### Clandestine Stations

Regarding the federation's position toward the clandestine and unofficial radios that transmit in Lebanon, he said: We are not concerned with them because we deal with governments. It is natural for us not to deal with unofficial broadcasting stations.

The federation has appealed to the Lebanese Ministry of Information to unify Lebanese information after the regrettable events.

### European Federation

Answering a question on the Arab Federation's relations with the international federations, he said: We have been able to lay down strong and firm bases with the Federation of European Broadcasting Stations, especially in the sphere of news.

The Arab countries receive a daily message from the Eurovision through artificial satellites. Our relations with the European Broadcasting Federation is good, especially in the sphere of coordination between the Arab broadcasting stations on the one hand and the active stations [sic] and the European federation on the other hand.

He also said that the European federation is eager to attend all the meetings of the Arab Broadcasting Stations Federation as an observer. We are also eager to attend its conferences in the same capacity, keeping in mind that more than one Arab country is a member of the European federation and we are trying to confirm these countries as basic members.

What applies to the European Broadcasting Stations Federation also applies to the Federation of Asian and African Broadcasting Stations. The General Secretariat has submitted a study to draw up the bases for broadcasting cooperation between the Arab and African countries through the Afro-Arab dialogue. The federation has adopted the General Secretariat's memorandum and is now putting this study into implementation.

#### Items of Cooperation

The most important item of this study is an exploration of the needs of the African countries in the sphere of training programs. He added: We, as a General Secretariat, are eager to supply Africa, in response to its wishes, with its needs of Arab experts and of equipment and other resources in cooperation with the Arab Fund for African Aid which is controlled by the Arab League.

#### Various Activities

Regarding the activities of the Arab Broadcasting Stations Federation, he said that the federation will organize special training courses to prepare cadres trained for radio and television work in the African countries.

As for the latest activities of the federation, we organized last June the second international seminar for world-wide news in Cairo. All the international broadcasting federations and organizations concerned took part in this seminar.

This seminar was held to study laying down the bases for information exchange between countries of the world and to discuss the best means to guarantee the flow of information between them.

At the Arab level, we have the Palestine film and program festival [next] March. Last August, we organized the Arab song festival in Damascus. The festival was held under the slogan of developing the Arab song. This festival will be held in Damascus once every 2 years.

We are also awaiting the big event in the first third of next year when the third international festival for Palestine programs will be held.

#### Training Technical Cadres

Answering a question on the federation's relationship with the first training course held in Kuwait recently to prepare the technical cadres to formulate educational television programs, the representative of the Broadcasting Federation said:

#### Regional Broadcasting Conference

In 1975, the Arab Broadcasting Stations Federation called for holding a conference for educational broadcasting stations in the State of Kuwait in coordination and cooperation with the Kuwaiti Ministry of Information. This conference was the first of its kind in the world and it included various Arab educators and information people. The success of this conference was an incentive for the European Broadcasting Stations Federation and for the African Broadcasting Stations Federation to call for similar conferences. The regional Arab broadcasting stations conference, along with the Arab Education, Culture and Science Organization, recommended the need for holding a training course for radio and television stations. Thus cooperative steps were taken by the federation and the organization and a joint invitation was issued to hold the training course to prepare the cadres for drawing up television programs. The course included 14 Arab countries. The course also had its importance because it was the fruit of joint action and because it achieved its goals as a result of numerous considerations, including the personal enthusiasm and interest of the brother trainees. The results of the course reached the most that could be achieved under conditions in which we wanted to demonstrate that this course would enable us to learn the aspects of the needed requirements. Our evaluation of the course will give us the opportunity to organize other special courses lasting longer periods of time. The representative said: The future courses can be longer and can be held in any Arab country.

#### Successful Broadcaster

As a sidenote, we asked the representative of the Arab Broadcasting Stations Federation about the qualities of the successful broadcaster. He said: The successful broadcaster is the one who can skillfully separate his personal opinion and his way of thinking from what he presents. He is acceptable to the viewer and the listener and he can create amiability between himself and his audience through his dress and through the way he addresses the people. He is also capable of controlling his voice range and his enunciation.

## EGYPT

### LASER BEAMS USED TO TRACK SATELLITES

Cairo AL-AHRAM in Arabic 11 Jul 78 p 3

[Text] Cairo has begun to use a laser beam, one of the latest achievements of science, to observe manmade satellites passing through the sky above Egypt. Astronomers at Helwan Observatory have announced, after a full year's silence, the successful use of a laser beam to observe five satellites launched by the US space agency, which are orbiting the earth at altitudes ranging from 500 to 3,000 kilometers. This is done using a rod of amber [i.e. amber-colored working medium].

In the satellite observation station of the Helwan Observatory extremely short pulses of light--the laser--are emitted at the immense speed of light, 300,000 kilometers per second. They then pass through the upper layers of the atmosphere and cross space to strike a satellite, after which they return and are received by a light detector. By means of an extremely efficient timer it is possible to measure the speed of light with an accuracy of one-billionth of a second, and by employing three atomic clocks with an accuracy of one-millionth of a second and a computer it is possible to determine the distance of the satellite from the station, and thus its orbit, with great accuracy.

In the first place, according to Dr Muhammad Fahim, the director of the observation station, there are dozens of satellites, launched since 1957, the year in which the invasion of space began; they revolve around the earth in different orbits and paths and for different purposes. If we leave aside the military satellites launched by the major powers for the purpose of spying on one another, the majority of satellites have been launched for the purpose of exploring outer space or studying atmospheric formations. Some of them are orbiting the earth at the same speed as that with which it rotates about its axis, so that they would seem fixed and immobile to an observer. These are a type of satellite used in radio communications and the transmission of television programs.

There is another type of satellite which contains extremely accurate photographic equipment and electronic instruments for producing images of what is on the surface of the earth, or inside it, for the purpose of studying its geology and subsurface water content or changes occurring in its agricultural lands.

From its unique geographic position, Egypt has successfully begun the process of satellite observation. It began with optical imaging, then proceeded to photography and to television and radio imaging, with the laser beam coming into use most recently.

#### Movement of the Fissures Between Continents

Accordingly, satellites and space ships have opened up new horizons in the study of the earth and the cosmos which surrounds it; for the practical problems which are posed for science are connected with the capabilities and the development of the equipment that is available to the scientists in their studies. When the laser began to be used in the Helwan station to observe and track satellites, the error in determining the distance of the satellite from the station ranged from 25 to 90 centimeters. This was an extremely small relative error in the calculations. But success in making observations of this degree of accuracy is inspiring studies concerning the placement of a survey network to be used in determining distances and positions on the earth and in making maps, as well as making possible the study of the gravitational force with an appropriate accuracy. However, the above level of precision did not enable the scientists to study the shape of the earth, the movement of the poles, the rotation of the earth around its axis, stratigraphic formations within the earth or the dynamics of tectonic movements with sufficient accuracy, since all of these require an error within 10 centimeters. This has stimulated the Egyptian scientists to improve the accuracy and operation of the station by developing its equipment. Their aim is to arrive at a maximum relative error of 2 centimeters, which would enable them to study the movement of the fissures between continents.

#### A Death Ray Used to Observe Satellites

What sort of a station, then, is this Helwan station, which uses a laser to observe satellites?

As described by Dr Bulaygh Bisharah, a researcher at the Helwan Observatory, it consists of a transmitter which makes use of an amber rod to emit the extremely short pulses of laser light. They are sent out at the speed of light, 300,000 kilometers per second. Owing to their energy of movement they are able to penetrate the upper atmosphere surrounding the earth without danger of being scattered, thanks to their intensity and the shortness of the wavelength. They continue until they strike the satellite at which they are aimed, and on the surface of which there are reflectors which return them once more to the station to be received by the light detector. By using an extremely efficient timer it is possible to measure the speed of light with an accuracy down to one-billionth of a second (called a nanosecond by the scientists), so that they can determine the time the wave takes to travel through space and return to the station. When the speed of the laser light is known it is possible to determine the distance of the satellite from the station by using an electronic computer. The laser is known to have extremely high power. It attains 70 megawatts, thus amounting to a killer beam, or (as it is branded) a death ray. It is cooled by a special cooling apparatus.



### A Beam in Amber

According to Engineer 'Abd al-Rahman Fatah Allah, who is in charge of maintenance of the station, the laser beam is produced in the station by shining a beam of light from a special electric lamp located in a special silvered tube on an amber rod that is in the tube. The beams coming from the lamp and the silvered wall are focused on the rod and the energy of the atoms in the rod is raised to a second level. When the population of these atoms proliferates at the second level there occurs what the scientists call a "population explosion," emitting a laser beam, which is measured before and after the observation to determine the effect of atmospheric factors--humidity, temperature and pressure--on it.

Engineer Fatah Salam, the deputy in charge of maintenance of the station, added that the apparatus for measuring the speed of light requires advanced atomic clocks, whose purpose is to time the observation process according to the time in the US, where the main atomic clock for the measurement of world time is located. In addition the station is equipped with three atomic clocks which measure time with an accuracy down to a millionth of a second. They are compared twice a year with the main atomic clock. The station is currently following an international program of observation of satellites crossing the sky over Egypt. Young Egyptian scientists are currently engaged in observing five satellites which pass over Cairo every day: Geos 1, Geos 3, Beacon 2, Skylab and Aegeus, the largest in size. The reports produced by the Egyptian station are sent by Telex to the data collection center for space research in the US Smithsonian Institution as well as to research centers in Paris and Moscow.

### A Link Between Africa and Europe

The Egyptian scientists have been able to make use of their observations to draw up a survey network by means of which Africa is linked to Europe for the first time. Dr Mahar Ya'qub, a researcher at the Helwan Observatory, says that this study is in accordance with a world program to study the shape of the earth and the changes which occur in the movement of its axis. Egypt is participating in this process through the survey network of five stations and by linking these stations with others in Europe: the stations are in Helwan and Khartoum, in Chad, Mali and Somalia. The Egyptian research involves photographic observation of Aegeus, a large satellite with a diameter of 30 meters, Midas 3, Midas 7 and Discoverer 19. These observations have occupied the Helwan station for five years, beginning in 1972. It is significant that the error in drawing up the survey network does not exceed 5 to 20 meters. This means that it is possible to determine the distance between Cairo and Khartoum with an error not exceeding 20 meters. It is important that the next step is reliance on observation of satellites by laser so as to develop the survey network and attain higher accuracy in determining the coordinates of the five stations and the distances between them.

### The Helwan Station--A Common Element

Dr Yahya al-Halali, a researcher at the Helwan Observatory, says that the Egyptian station for the observation of satellites has, by virtue of its location, great importance in the observation process, being the only station which links

Africa to Europe, where satellites proceed from the north toward the equator; it also participates with the African stations in observing the satellites which proceed from the southern hemisphere toward the equator. Thus it is a connecting station and a common factor between the African and European stations.

From this unique location it has studied the reflection of the sun's rays from the earth and their effect on the movement of satellites, and has confirmed the existence of a considerable effect on the movement of satellites resulting from the resistance of the atmosphere at altitudes greater than 1,200 kilometers. In accordance with the results of the Egyptian investigations a new analytical theory has been developed according to which the rays of the sun reflected from the earth affect the orbits of satellites; this vital factor must be taken into account in the launching of satellites and in determining their orbits.

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CSO: 5500

## INTER-AFRICAN AFFAIRS

### REPORTAGE ON PAN-AFTEL REGIONAL CONFERENCE

#### Seychelles Delegation

Victoria NATION in English 23 Sep 78 p 2

[Text] A three-man Seychelles delegation leaves early tomorrow for Lesotho, where they will represent the Republic at the 13th Pan-Aftel Southern and East Africa Regional Conference.

The conference, which deals with international communications in the area, was held in Mahe last year.

As a result the leader of the Seychelles party, Mr Antonio Beaudoin, will chair the opening of the conference before handing over to the Lesotho delegates.

Mr Beaudoin, Chief Information Officer of the Republics Information Services will also deliver the official report on last year's conference in Seychelles.

He will be accompanied in Maseru by Mr Peter Hollands, General Manager of Cable and Wireless Ltd and Mr Pierre de Comarmond, Manager, Commercial Operations, with the same company.

While at the week-long conference, Mr de Comarmond will present a paper on quality control on semi-automatic telephone operations.

The party will return to Seychelles a week tomorrow.

#### Exchange of Information

Victoria NATION in English 28 Sep 78 pp 1, 2

[Text] The 13th annual regional telecommunications conference in Lesotho provides an excellent opportunity for a full exchange of technical and objective information, said the leader of the Seychelles delegation, Mr Antonio Beaudoin, when the conference opened this week.

Mr Beaudoin, Chief Information Officer with the Seychelles Information Services, was speaking before handing over the chairmanship of the Pan-Aftel Conference to the host nation.

Last year's conference was held in Seychelles, and Mr Beaudoin also presented to delegates in Maseru the chairman's report from that meeting.

After thanking the Lesotho Government for acting in the capacity of host this year, Mr Beaudoin said he wished to convey to members a short message from the Government of Seychelles, and he reminded them of what the Minister of Administration and Information, Mr James Michel, had said when he opened last year's conference.

"He stressed the need to reduce as soon as possible and eventually to eradicate completely the dependence of African and Third countries upon the large industrialised nations in the field of telecommunications," said Mr Beaudoin.

"He also spoke of the great need to do away with sensationalism and inaccurate reporting of events in Africa which can only be detrimental to the stability of the Continent.

"He spoke too of the need to set up as soon as possible an independent telecommunications network between all the African countries of this area.

"And he spoke of the need for the fullest exchange of technical and objective information between our countries," said Mr Beaudoin. "This Conference provides an excellent opportunity for such exchanges, both in the conference room and outside."

However, Mr Beaudoin stressed, the process must continue between conferences.

"To this end," he continued, "during the course of the year, the Government of Seychelles held useful and meaningful talks with a delegation from the Republic of Tanzania, which ended in an agreement for the establishment of a direct satellite link between the two countries.

#### Objective

"Similar and associated projects are being developed between other countries represented at this Conference.

"In this way, we move closer to our goal--closer to political freedom, economic freedom, political equality."

Mr Beaudoin ended his chairman's report by once again reminding delegates of some words from Minister Michel's keynote speech last year:

"The development and perfection of technology in the field of telecommunications must have one prime objective. It must serve the interest of the people, otherwise it will lose its true perspective and become something abstract in the lives and realities of the people."

#### European Transit Hit

Victoria NATION in English 2 Oct 78 p 2

[Text] "We have lived too long with the common, but nevertheless ridiculous situation whereby communications by telephone, telegraph and telex between two neighbouring African countries must still transit through a European country," the Lesotho Minister of Transport and Communications, Mr Peete N. Peete, told delegates at last week's Pan-Aftel Conference in Maseru.

"Such a situation will be completely unacceptable after this decade," he told representatives of 10 countries, including Seychelles.

The Republic was represented by a three-strong delegation, headed by Mr. Antonio Beaudoin Chief Information Officer, who was accompanied by Mr. Peter Hollands, General Manager of Cable and Wireless Ltd, and Mr. Pierre de Commarmond, Manager (Commercial Operations) with the same company.

Delegates were also addressed by Mr. R. M. Yusuf, Assistant Secretary-General of the newly formed Pan-African Telecommunications Union (PATU) and Mr. C. Amira, the representative of the Union of National Radio and Television Organisations in Africa (URTNA).

The PATU official said the organisation's headquarters had been established in Zaire. He spoke of the progress made so far in the setting-up of this new body to safeguard Africa's interests

in the telecommunications field.

Mr. Amira said URTNA played an important role in the development of the mass media in Africa. He said there was need for close co-ordination and collaboration between the telecommunications administrations and broadcasting organisations of Africa and URTNA and PATU.

Among the decisions taken by the conference, which represented the Southern and Eastern region of Pan-Aftel (the Pan-African Telecommunications Organisation), were :

- that URTNA, PATU, the International Telecommunications Union and the Pan-African News Agency liaise closely to ensure adequate planning of programmes and information dissemination between themselves and their member organisations ;

- that national committees be formed to co-ordinate the

views of the various national departments interested in the forthcoming World Radio Administrative Conference ;

- that there should be greater co-ordination among African sub-regions to co-ordinate their work in defining future satellite circuit requirements for inter-African telecommunications ;

- that the ITU organise urgently further seminars on operations and maintenance of the Pan-Aftel networks ;

- that the reports of the conference be translated into French and distributed to the French-speaking administrations of the sub-region as well as to PATU for their information.

As well as the Seychelles delegation, who arrived back in the Republic yesterday, there were representatives from Lesotho, Kenya, Botswana, Malawi, Uganda, Swaziland, Tanzania, Mozambique and Mauritius, who will host next year's conference.

SATELLITE EARTH STATION BEING ESTABLISHED IN SULULTA

Addis Ababa THE ETHIOPIAN HERALD in English 14 Oct 78 pp 1, 5

[Text]

**The Ethiopian Telecommunication Service is establishing a satellite earth station at a cost of 10.5 million Birr in Sululta area, 17 kms north of here on the way to Gojjam, Ato Goshu Abebe, manager of the radio division, told the Ethiopian Herald.**

Ato Goshu revealed that the establishment of the satellite earth station is underway and about two-third of the work is already completed. The task is being done by the Nepon Electric Company, a Japanese firm in accordance to the contract signed on October 15, 1977.

Furthermore, Ato Goshu continued that the equipment and spare parts of the HF radio system is not available in the former manufacturing establishments since most countries are using the satellite system. Besides, since Addis Ababa is a site of various international organizations, it is the desire of the Ethiopian Telecommunications Service to render efficient and qualitative means of communication facilities, he noted.

Explaining the aims and objectives of establishing the satellite earth station, the manager of the division said that, for a long period of time, the service has been making use of High Frequency (HF) radio system for international means of communication. The HF radio system is not at present suitable and adequate to give efficient and qualitative services for international communications. Since the HF radio system changes in quality of performances due to weather conditions, the quality of transmission is not reliable, he stated.

When the satellite earth station becomes operational, the manager of the division added, the circuit is expected to be three fold and thus the international traffic will increase highly. In addition

to the services given earlier by the use of the radio system such as telephone, telax and telegram, the new station will have the capacity to serve as a television receptionist from any part of the world where there are similar satellite earth stations, Ato Goshu further revealed.

To master the know-how for the operation and maintenance of this technology he pointed out that seven members of the staff have been sent for training to Japan. Others are also receiving training by the contractors at the spot. The necessary equipment has already arrived from Japan and installation will begin next month. By May, 1979, the newly established satellite earth station is expected to be operational, Ato Goshu concluded.

CSO: 5500

## SEYCHELLES

### NEW AUTOMATIC TELEX EXCHANGE INAUGURATED

Victoria NATION in English 11 Oct 78 pp 1, 2

[Text] The Minister for Administration and Information, Mr James Michel, returned temporarily to his former job as an operator with Cable and Wireless when he took over the keyboard yesterday to transmit the inaugural message on the first automatic telex exchange in Seychelles.

Addressing Mr Richard Cannon, managing director of Cable and Wireless in London, the Minister described the introduction of the improved service as an indication of the faith the company had in the future of Seychelles.

"It is also, I suggest," the message went on, "a response to a real demand from the business world which shares this confidence.

"On behalf of the Government, I congratulate and thank Cable and Wireless for the installation of this greatly improved communication facility."

Mr Cannon, in his message, said the opening of the new service was "another milestone in the progress of Seychelles communications, and evidence of the increasing prosperity and development of your country."

He told the Minister, "It gives us great pleasure to continue to be of service to Seychelles with the considerable support and encouragement of your Government."

The general manager of Cable and Wireless in Seychelles, Mr Peter Hollands, said the main feature of the new exchange was the computerisation of the switching operation.

This means the individual subscriber can now place his own call--to subscribers in more than 130 countries--without having to go via an operator at the Cable and Wireless office, which could be a laborious, long drawn out performance.



In addition, the new equipment is capable of dealing with up to 55 calls at a time, which avoids the possibility of having to wait.

"Another bonus for the customer is that with this, equipment there is a minimum charge for one minute, that is RS. 20 to London, for example whereas before the minimum was three minutes," said Mr Hollands.

"You can transmit 66 words in one minute, and it's obviously cheaper than having to pay for three minutes when you have only a short message to send."

That subscribers--mainly Government departments, hotels and local businesses--agree is shown by the fact that the calling rate has doubled in the 10 days the new system has been in use.

There has also been increased interest in joining the telex 'club' since the arrival of the new exchange was announced a month ago.

At present Cable and Wireless have 82 subscribers in Seychelles--including three on Praslin and one on La Digue--and the last few weeks have brought two more firm orders and half a dozen enquiries.

"The system is capable of being expanded to take up to 720 people," said Mr Hollands, "so there is no problem in accommodating new customers."

Cable and Wireless have just completed a 10-day training programme to teach subscribers how to operate the machines themselves, and some 200 people attended.

After the inaugural call Mr Hollands and Mr Pierre de Commarmond, Commercial Operations Manager with Cable and Wireless, explained to the Minister and his Permanent Secretary, Mr A. G. Mackellar, some of the benefits of the new scheme.

They were then shown the exchange itself, and its intricacies were explained by Mr Gerry Beyer, who was in charge of the installation, and Mr Steve Price.

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SATELLITE, LANDLINE LINKS EXTEND TADZHIKISTAN TV COVERAGE

Moscow PRAVDA in Russian 25 Oct 78 p 6 LD

[Nonstaff correspondent D. Chernysh commentary: "Space Reality"]

[Text] Dushanbe, 24 Oct--Aleksandr Kozlov's special team of construction workers from the Moscow region has embarked on turning the radio and technical equipment of the new "Orbita-2" receiving station.

An antenna system with a parabolic reflector has been installed on a mountain pass. The first television program from Moscow--currently Moscow programs are transmitted by overland wires--will soon be received on the new relay via the "Raduga" satellite link.

"From next year," L. Avnukov, Tadzhik Deputy Minister of Communications, told us, "'Orbita-2' will permit viewers in our republic to watch four channels from the capital."

Television is a long-standing institution in the life of this mountainous region. On the eve of the 60th Anniversary of Great October a relay was established between Khorog, capital of Gorno-Badakhshanskaya oblast, and Moscow using an "Orbita-2" station. Television broadcasts can now be seen up in the clouds in the kishlaks of the Soviet pamir.

By the end of the five-year plan inhabitants of outlying regions of Karategin will be able to watch television. Communications workers are laying a relay line there from Dushanbe. Construction workers at the big Rogunskaya ges on the Vakhsh River and farmers and stockmen in high mountain regions will shortly be able to receive two programs.

A relay line currently under construction in northern Tadzhikistan will extend the zone of reliable television reception from Moscow and Dushanbe into regions of Leninabadskaya oblast.

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## DGT POLICY ON OPTICAL TELECOMMUNICATIONS DEFINED

Paris ELECTRONIQUE ACTUALITES in French 6 Oct 78 pp 1, 8

[Article by D. Levy]

[Text] The PTT [Telephone and Postal Services] plan for the introduction of optical telecommunications is launched. After the selection of Thomson-CSF [Thomson-General Wireless Company] for the construction of the first experimental hookup using optical wires, the installation, scheduled for July 1980, will be followed by a 1-year trial run at the end of which a check will be made on its technical aspects as well as on its possibilities for exploitation. Then, or at the end of 1980, simultaneously with the trial runs, the industrial development of the optical system will be launched; this could be introduced into the networks of large urban centers before 1985. This technical approach to optical telecommunications is being finalized through the elaboration of an industrial policy aimed at controlling the manufacture of optical wire and components in France so that they may be available to all our manufacturers for domestic needs as well as for export.

The DAII [expansion unknown] Conference on the optical-wire experimental hookup installed between two Paris exchanges (Tuileries and Philippe Auguste) will mark a turning point in the involvement of telecommunications in this technique. "This initiative," it is explained at the DAII Conference, "was conceived with the aim of stimulating our builders and aiding our manufacturers to become aware of the interest inherent in optical telecommunications. But it also answers one of the administration's needs over the relatively short term."

As a matter of fact, large urban centers, Paris foremost, are experiencing the need to increase the transmitting capacity of their "lines of communication," and the services involved in the exploitation of telecommunications, who discern very attractive aspects in optical-wire hookups, want to know if they will be able to count on this technology as early as 1985. This conference, arranged by Thomson-CSF, should make it possible to demonstrate the validity of this solution both on the technical and economic levels. Moreover, needs are showing up in regard to export and it is to our advantage to make it possible for our manufacturers to capture these markets.

## Industrial Guarantees

"This experimental hookup," it was said at the DAII Conference, "is the logical result of work undertaken several years ago by CNET [National Center for Telecommunications Studies] in the field of optical telecommunications. Moreover, this organization is continuing its research by exploring all resources of this technology (particularly the search for new optical 'windows' corresponding to slight attenuations of the glass wires, which would make it possible to space the repeaters) and is increasing its technical potential by acquiring a new automatic machine for preparing dies and drawing wire."

"However," it is observed, "if we exclude the 144-wire hookup made by Bell in the United States, this experimental hookup appears to be the most advanced in the world and the one nearest to operational exploitation. In fact, it must be stated that the Paris hookup of 7 km will include 60 wires, of which 20 are operational, and that the cable's overall losses will not exceed 42 db. In addition, the manufacturer has been required to guarantee proper operation for 1 year with only one breakdown and to assume responsibility for repairing, within 24 hours, any cable that may have been severed during testing."

The installation of this hookup is scheduled for July 1980 and will be followed by a 1-year trial run at the end of which a thorough check will be made in regard to its technical aspects and its possibilities for exploitation, particularly in reference to the life expectancy of the components and the profitability of the operation. We shall then proceed to the phase of industrial development of the optical telecommunications system, which will involve several manufacturers. Moreover, this development stage could begin as early as the end of 1980, if the trial runs prove encouraging.

Thomson-CSF has been retained to carry out this experimental hookup due to its technical criteria, the excellent solution proposed, the cost of engineering and the fact that most of the components will be purchased from the domestic market (particularly the optical wire, which will be produced by this group). "But," it is added at the DAII Conference, "among the proposals submitted we found others equally interesting, and we are not excluding new competitive efforts in regard to other experimental hookups."

## Controlling Optical Wire and Laser Diodes

"However," it is explained, "the timeliness of placing a second order depends primarily on the availability of two components: optical wire and laser diodes. In regard to optical wire, our objective is to manufacture that product domestically so as to make it available to all French cable ships to satisfy our domestic needs and also those of export. In this area we want to achieve complete technical, industrial and commercial control and we are aiming at products that give the best performance and cost the least to manufacture." Several solutions are being studied to achieve this objective: the establishment of an independent company for making dies, the production by Quartz and Silica

(of the Saint-Gobain group in Pont-a-Mousson) of optical wire conceived along the lines of CNET technology--this could be the source the DAII Conference wants in considering the world market--or production in France by foreign firms (Philips has already proposed this). "This approach," it is observed, "is consistent with Corning's industrial strategy."

The question of availability of optical wire is crucial, when one considers the future markets it represents. Thus, in addition to hookups between exchanges, we are already contemplating the introduction of optical wire into local networks as early as 1990; this represents a market 10 times greater than the preceding (30 million subscribers forecast by that date); and this will hold true provided optical-wire hookups are less costly than those using copper. But will not optical wire arrive too late and will it not have to be content with secondary subscribers and with the replacement market?

In reference to the laser diode (the repeater's principal piece), whose reliability is still in doubt, Thomson-CSF and CGE [General Electric Company] are presently developing that item. But the DAII Conference is questioning the industrial future of these components. "We want these products to be available to everyone," the conference emphasizes, "and at the lowest possible price; and we also want to go after other outlets. The laser diode must not be a specific PTT component but rather an element of optical-electronic production using gallium arsenide."

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END